

Application No. 10/051,927
Amendment dated October 3, 2005
Reply to Office Action of April 1, 2005

Remarks/Arguments

The Applicant is responding to the examiner's office action of April 1, 2005 with reference to the above-captioned patent application. The record should reflect that the present application has been assigned to Thermal Technologies, Inc., as has been presented in the statement under 37 C.F.R. 3.73(b) in the Applicant's last response dated January 12, 2005. The Applicant notes that although a request and change of correspondence address was simultaneously filed, the patent office action of April 1, 2005 was mailed to the Applicant's prior attorney, and not to the present attorney of record as should be duly noted in the file wrapper. Correction of the mailing address and notice of the change in power of attorney is most cordially requested.

Claims 1 through 14 are in the case. The initial rejection by the examiner had been withdrawn after the Applicant's response filed January 12, 2005, but upon further consideration the examiner found new grounds for rejection, specifically citing new art. The Applicant has been provided an opportunity to respond to the new grounds for rejection and respectfully does so below, addressing each comment of the examiner generally in the order they are presented in the pending office action.

In Paragraph #6 of the pending office action, the examiner rejected claims 1 and 2, 5 through 8 and 10 through 14, indicated under 35 USC §103 (a), citing Wade in view of Okamoto. The examiner states that Wade teaches:

"..each of said side walls of said cabinet comprising an outer wall (36), an inner wall separated from said outer wall by a space (see FIG. 9) and said cover portion being positioned atop the front, side and rear walls (see FIG. 9).."

The Applicant most respectfully disagrees, in that Fig 9 of Wade is not a wall

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space but is for insulation by wrapping the boxed fruit. **See column 6 lines 12 to 27 of Wade.** Wade provides:

A stack of boxes in accordance with the present invention may be spiral wound with a multilayer web including, as illustrated in FIG. 9, a layer of insulating material 88 attached to one or more layers of synthetic resin material 90. Such a layered web is particularly useful in the system illustrated in FIGS. 6 and 7. Alternatively, in that system, two webs may be spiral wound around the stack of boxes 12, one web consisting of a sheet of synthetic resin material and the other web including a layer of insulating material. The insulation serves to maintain the temperature within the stack of boxes within a predetermined temperature range, despite differing or fluctuating ambient temperatures. It is to be noted that heat exchanger 48 may include heating coils as well as or in substitution for cooling coils of an air conditioning unit.

Wade does not teach the present invention as suggested by the examiner. Element 36 in Wade is a strip of wrap material and element 12 is a box of produce, not an inner or outer wall argued by examiner. Wade discloses:

As illustrated in FIG. 1, a box 12 for holding produce, particularly fresh fruit such as bananas,...col 4, line 26.

Wade further discloses:

As illustrated in FIG. 5, an eight-layer stack of banana boxes is wrapped with a strip 36 of transparent synthetic resin material. Strip 36 is wound along a spiral path around four vertically oriented faces of the 48-box stack. The bottom edge 38 of the plastic sheet 36 is advantageously attached along its length to pallet 22. The attachment of bottom edge 38 to pallet 22 serves in part a stabilizing and rigidifying function and secures the stack of boxes to the pallet. col 4, line 53.

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Thus, the examiner's comments seem off point to the Applicant when the examiner's references are compared to his comments. The examiner seems to believe that Wade describes the construction of a dual chamber with an inner and outer wall area or volume. Any plain reading of Wade, including consideration of the various figures, yields a description of a chimney-like effect wherein the air is blown from the top to bottom, or bottom to top of the stack of palletized produce when the air is confined to within the internal box area using the wrapped gas impermeable web. The examiner seems to believe that the web material, usually a shrink wrap type of transparent synthetic resin produced for shipment creates an inner area and outer area, unlike the claimed invention. In the present invention the outer wall and inner wall are separated by a space, as well as a plurality of vertically oriented partitions disposed within said inner and outer walls creating essentially two chambers, unlike Wade in which there is no space between the wall. Element 88 of FIG 9 is a solid gas impermeable space which is meant to depict shrink wrap type materials which wrap the boxes palletized together as a single unit.

In the pending office action, the examiner states in paragraph 6 Wade provides:

".. said cover portion housing blowers (42) disposed atop air flow channels (of each side wall and conduit means (col 4, lines 65-68) interconnecting said blowers, said channels for fluidly communicating said blowers with said air flow channels, a condenser coil and an air-conditioning apparatus (48, FIG. 7), a return (44, FIG. 5) for directing air from the inner wall (col 5, lines 15-22) substantially as claimed with the exception of said front walls of said cabinet defining an access opening for insertion and withdrawal of one or more of said boxes, a plurality of vertically oriented partitions disposed between said inner and outer walls, said partitions being spaced from one another and being in intimate

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contact with said inner and outer side walls, so that said inner and outer side walls define, with said partitions, air flow channels, having a plurality of blowers, instead of a single blower,.."

The Applicant most respectfully traverses the examiners observations in that col 4, lines 65-68 of Wade provides:

At the top of the stack of boxes shown in FIG. 5 shown in FIG. 5 is disposed a unitary plastic cap or cover 40 which houses a blower 42. Cap 40 communicates with the interior of the boxes in an uppermost layer of the stack of boxes via the open lower face of the cap. During operation of blower 42, a vertical pressure gradient is generated in the stack of boxes, air entering the lowermost boxes through gaps 26, 27 and 28 and openings 20 in the lower panels of the lowermost boxes 12. Owing to the central location of openings 16 and 20 in upper and lower panels 14 and 18 of boxes 12, the openings in one box register with the openings of vertically adjacent boxes to allow the generation of a vertical stream of air during the operation of blower 42. Cap 40 is provided with an exhaust aperture 44 through which the blower or fan 42 exhausts air which has been drawn through the stack of boxes.

The invention in Wade is designed to address an entirely different problem than the issue addressed by the present invention. In fact, the invention in Wade requires that all of the boxes of produce stacked and tightly wrapped with the gas impermeable wrap remain in position for the device or the method to operate properly. To the contrary, the invention presently disclosed addresses the failing of Wade when a single pallet of boxed produce is being stored within the invention, but one or more boxes are removed from the stack. In contrast, the present invention allows continued air flow in a partially loaded volume in which Wade would fail under the same circumstances. One skilled in the art addressing the problem solved by the present invention, observing the

Wade invention and disclosure would hardly be disposed to think of the solution presented presently when reviewing the Wade disclosure even in view of the combination of other art.

The examiner further observed that:

Okamoto shows front walls (2 and 20, FIG. 4) of said cabinet defining an access opening (8, FIG. 4), for insertion and withdrawal of one or more of said boxes, a plurality of vertically oriented partitions (51, FIG. 8)¹ disposed between said inner and outer walls, said partitions being spaced from one another and being in intimate contact with said inner and outer side walls, so that said inner and outer side , walls define, with said partitions, air flow channels (11A-F, FIG.'s 1-5),² having the a/c unit in the cover portion (14, FIG. 1), not at the bottom, a motor (col 3, line 30) for the blowers, each blower driven by a separate motor (12, 13 and 14, FIG. 1) and having a plastic and attached closure (3, FIG. 4) to block egress of air from the interior of said cabinet to be old in the refrigeration art..... Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Okamoto to modify the system of Wade, by adding an access opening, a plurality of vertically oriented partitions, a plurality of blowers, an ac unit in the cover portion and having a plastic and attached closure to block egress of air from the interior of said cabinet in order to provide the cold-air circulation space to communicate

¹Such partitions in this reference do not partition space but rather are the arrangement of the gas adsorption (sic) members mounted on the inner box. (Okamoto @ column 3, line 3.)

² Air flow channels (11A-F, FIG.'s 1-5) do not teach any communications between the channels, nor are there any openings as taught and claimed in the present invention.

with the atmosphere and at the same time take in fresh air into the circulation space (col 2, lines 45-52)³.

The invention in Okamoto is aimed at solving a different problem in which air flow through palletized produce is not actually addressed. The storage case disclosed in Okamoto is to provide a gas-type interior so that ethylene absorbing members can contain and control such gas partial pressure within the internal room while leaving the storage room exposed to cold air circulation from the outside blanketed area. A simple analogy to the Okamoto disclosure is one of a thermos bottle in which controlling gas absorption in the interior volume utilizing specialized absorbing members is desired while maintaining the internal integrity of the volume, but adding temperature control by the blanketed second space defined as an outer box surrounding the internal space. Specifically, Okamoto does not contemplate injection or control of air between the inner and outer volume, but rather takes air from the outer volume surrounding the interior produce and vents the outer volume air to the outside atmosphere for the purpose of ventilating the cold air circulation space as may be required to maintain temperature and to reactivate the ethylene absorptivity of the absorbing members.

Contemplation of controlled air flow through palletized produce in a partially loaded containment room is nowhere suggested in Okamoto. Moreover, your Applicant respectfully argues that one exposed to the Wade invention, in view of Okamoto would hardly be moved to design the present invention. The Applicant suggests that the present invention addresses a need in the industry, and is becoming a commercial success for the Applicant. The invention meets a need and solves a problem

³Okamoto actually provides: "It is also desirable to provide the outer box with an opening causing the cold-air circulation space to communicate with the atmosphere, and with a damper means for opening/closing the opening."

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unaddressed by the existing art in the field of controlled produce ripening of a single pallet of produce in a partially loaded room which allows for continued controlled air flow through the remaining produce when one or more boxes of the palletized load is removed through the door opening. In short, proper air flow is maintained through the remaining boxes of produce without the need to wrap, reseal, or recreate an existing closed space within the palletized conditioning room. The present invention does not open the air circulation space to atmosphere but rather allows controlled communications of pressurized air in order to provide for even air flow through produce even with uneven loading and with removal of one or more of the boxes of palletized produce from the compartment which comprises the invention.

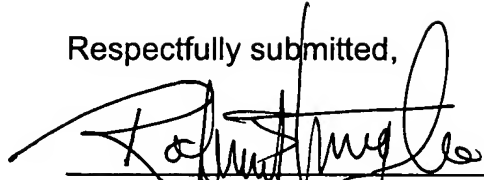
Conclusions

With the above, the Applicant respectfully suggests that it has presented argument which traverses the examiner's objections based on the specific prior art referenced. In view of the examiner's arguments and the clarifications offered, the Applicant respectfully requests that the examiner remove such objections presented in the first office action, permitting a notice of allowance to be issued. The Applicant believes that it has addressed all of the rejections, objections and other requirements of the examiner. In the event that the examiner may identify patentable subject matter but still requires additional prosecution in view of the new presentation in this response, the examiner is most cordially invited to call the undersigned counsel at the examiner's convenience to discuss desirable additional amendments or changes to the extent necessary to place the case in condition for allowance. The Applicant thanks the examiner for the time spent in reviewing this application.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert B. Famiglio', written over a horizontal line.

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